An Essay
on
Variola

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By

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Variola.

Small-pox.

Variola or small-pox, is a febrile contagious disease, characterized by a peculiar pustular eruption. The term variola is derived from the Latin, varus, a pimple; or varius, spotted. Its origin is lost in antiquity. It occurs under three aspects; namely —— the natural small-pox, as it occurs in any one unprepared for its reception, either by a previous attack of the disease, inoculation, or vaccination —— the inoculated small-pox —— and the modified small-pox, as it happens in persons who have been previously vaccinated. It is not our purpose to speak of the inoculated small-pox, as it is but seldom met with at the present day. The natural small-pox presents itself in two forms; the distinct and the confluent. In the former, the distinct, the pustules

are few in number, and are scattered singly over the surface of the body. In the confluent form the pustules run together upon the face, so as to form one continuous swelling, and the constitutional symptoms are very severe, in most cases. The disease is marked by several well-marked stages or periods, which are called, (1) the incubative, (2) the febrile or invasive, (3) the eruptive, (4) the maturing or suppurative, and, (5) the dessicative or stage of desquamation.

Incubation. —— This stage extends from the time of exposure; to the first appearance of morbid symptoms. It lasts from seven to twenty days, generally about ten or twelve.

Invasion. —— This stage commences with chills and rigors, fever; followed by pains in the back, head and limbs, thirst and want of appetite; with which are soon associated, gastric uneasiness, sore

throat, hoarseness and weeping eyes. Nausea and vomiting commonly occurs, with tenderness at the epigastric region. These symptoms continue from two to three days, when there is a supervention of the eruptive stage.

Eruption. ——— This appears first upon the face in the form of small red spots or pimples, resembling flea-bites, each surrounded by a red areola, and presenting to the touch a sensible resistance. After its appearance upon the face, it spreads gradually over the neck, scalp, body and extremities. Each pimple in the course of one or two days becomes vesicular in character, with a depression in the centre. This appearance, umbilicated as it is called, is peculiar to this disease, by which it may be diagnosed from all other eruptions. It requires about twenty-four or forty-eight hours for the full development of the eruption. When this period supervenes there is a

marked remission of the pain and febrile symptoms.

The mean for this stage is five days for the face and eight or nine days for the body generally. The eruption in the confluent form generally involves the mucous membranes of the mouth, throat, larynx, pharynx, and in very malignant cases the rectum and urethra.

Maturation. —— The eruption now assumes a purulent character, the matter of the vesicles becoming thick and yellow. Great swelling of the subcutaneous cellular tissue, especially of the face and eyelids; takes place. There is a renewal of the febrile disturbance still more violent than at first, which commonly continues during the remainder of the disease. This is called the "secondary fever," which constitutes the turning point of the disease. During this stage, pleurisy and other diseases of a serious nature are apt to set in, and cloud the prospect of a happy termination to the disease. This stage lasts about four or five days, when

the pustules burst, forming hard and dark scabs.

In the confluent form, it generally takes on a very malignant or typhoid type. The nervous system is deeply implicated, as is manifested by delirium and stupor. The matter of the pustules is of a dusky color and irritating to the surrounding skin. The eruption in the larynx and trachea by the swelling it causes, sometimes produces suffocation and death. More deaths occur at this than at any other period of the disease.

Dessication. —— During this period the scabs fall off, leaving small irregular and generally permanent cicatrices. This lasts about three or five days, after which if the case has run a moderate course the patient is soon convalescent. A musty odor peculiar to small-pox is exhaled during suppuration and desquamation. The cutaneous system at this time is very sensible to the impression of cold; and

great care must be taken to avoid atmospheric extremes. Fatal diseases of the lungs, frequently occur at this time from carelessness in this respect. Opthalmia in bad cases occurs, which frequently destroys the eyesight. The sense of hearing is sometimes destroyed.

Varioloid or modified small-pox is a light form of the preceding disease. It has but few pustules; the constitutional symptoms are light, and it generally leaves no scars. Its duration is much shorter: it generally lasts but fourteen days.

Causes. —— Variola arises from a specific cause, and is highly contagious. It spares no age nor sex, not even excepting the foetus-in-utero. It is communicable from the beginning of the eruptive to the end of the dessicative periods. It occurs at all seasons and in every climate. It is generally more prevalent and fatal during Winter than Summer; owing to the

imperfect ventilation of houses during the former period. Sporadic or isolated cases occasionally appear; but the disease generally prevails epidemically. It occurs with fearful violence in large cities and in badly ventilated houses. Some 600 or 700 deaths from this loathsome disease have taken place in Philadelphia during the past two Winters and the intervening season.

Diagnosis.—— The diagnosis before the eruption comes out is generally difficult and often impossible, from the great resemblance of small-pox to other febrile diseases. The papular eruption is distinguished from measles by the granular feeling under the skin, to the touch in variola; while in measles it presents one level surface. Variola is distinguished from varicella or chicken-pox, by a want of depression in the pustules, and the absence of a suppurative or secondary fever in the latter.

Prognosis.—— In the distinct form of small-pox, unattended with nervous symptoms, passive hemorrhage, dysentery, or other unusual complication; the prognosis is always favorable. In such cases it generally ends in from fourteen to twenty days; while the duration of the confluent form is incomparably longer, when the disease does not terminate fatally in the earlier stages. The prognosis may be calculated from the intensity of the early symptoms; however it is best to be cautious about rendering a prognosis founded upon such data. It is unfavorable in very young or very old persons. If the eruption occurs at once over the whole cutaneous surface, the case is apt to be fatal. Cerebral symptoms in this disease are always alarming. Ecchymosis and petechiæ indicate approaching death. Severe hoarseness is unfavorable. Obstinate opthalmia, otitis, abscesses and other accidental affections are the causes of additional symptoms which protract and

increase the risks of convalescence. When it occurs during pregnancy it is generally fatal to both mother and foetus. Drunkards and all others whose constitutions are broken down by excess, rarely escape. The retrocession of the eruption to important internal organs will prove fatal, if not speedily overcome, and brought out upon the skin by appropriate remedial measures. Thirty years ago the mortality was one to every three that were attacked. It is much less at the present time, owing to the common resort to vaccination. In varioloid the mortality is but 7 per cent. of those attacked.

Pathology. — Of this but little is positively known. The only constant morbid alterations are found in the blood, the skin and mucous membranes. The disease essentially consists of a peculiar poisoning of the blood, the physical characteristics of which have not yet been discovered. After death in some

cases, the blood is found of a watery consistence, dissolved, as it is called. The size, the form, and the umbilicated depressions of the pustules of variola depend evidently upon a pseudo-membraneous disc, secreted by the papillae, inflamed and elevated in the form of a zone, in the places occupied by the pustules. The mucous membranes are often injected and inflamed, and sometimes present well marked pustules. Pustules are rarely if ever found in the alimentary canal, proper. The lungs are sometimes violently congested and gorged with blood. The membranes and substance of the brain, in rare cases, present traces of inflammatory action.

Therapeutics. —— Not many remedies are called for in the treatment of small-pox. The following more frequently than others, on account of the similarity of their symptoms to cases of the disease as they commonly occur: —— aconite, arsenicum,

belladonna, bryonia, chamomilla, ipecacuanha, mercurius, muriatic acid, nitric acid, nux vomica, opium, rhus toxicodendron, sulphur, tart. emeticus, vaccinin, variolin, &c.

Aconite is of great value in the febrile stages of the complaint, and when there is threatened visceral congestion.

Coffea will allay nervous excitability.

Belladonna, when congestion or inflammation of the brain occurs, as indicated by flushed countenance, headache, photophobia, thirst and delerium; followed by nausea, pain in the stomach, vomiting and stupor.

Chamomilla, when it occurs in children at the period of dentition. It is indicated when restlessness, startings and convulsions take place in the febrile stage.

Bryonia, when there are rheumatic pains which are increased by motion; gastric symptoms, headache,

and constipation. It is also used for the relief of some pneumonic symptoms, pain in the chest, cough and dyspnoea. When typhoid symptoms set in, it is invaluable; also when the eruption does not make its appearance regularly.

Rhus toxicodendron, is used when there is a dry glassy tongue with much fever; and the pains are temporarily relieved by motion. It is also used to bring out the eruption when it is tardy.

Ipecacuanha, for tightness of the chest; with nausea and vomiting in the early stages of the disease.

Sulphur in the higher attenuations, is exceedingly valuable in all stages of the disease, and when there is a psoric taint in the system. In the eruptive stage, it is useful in assisting the natural course of the disease. It is said to act as a prophylactic or preventative of small-pox.

Nux vomica, is used when the pain in the back

is very violent and accompanied with nausea and vomiting.

Tartar emeticus, is considered a specific for this affection, as in persons in health it produces an eruption, pustular in character, which is very similar to variola. It is indicated when there are internal eruptions, with dryness and heat of the throat; also nausea and vomiting.

Opium, when coma and stertorous breathing occurs.

Mercurius solubilis, if salivation, ulcerated throat, diarrhoea, with bloody stools and tenesmus occur. It is also used for opthalmia, and is often called for through the suppurative period. Cough and laryngitis are succesfully combated by this remedy.

Vaccinin and variolin, are highly recommended by some homœopathic physicians. They are said to moderate the course of the disease and shorten its

duration very satisfactorily.

Arsenicum and carbo vegetabilis are used in malignant typhoid cases, and when there is a gangrenous tendency. They are most frequently called for in the suppurative stage.

Muriatic acid, in low typhus cases marked by picking at the bed-clothes, low muttering delirium and tendency to sink to the foot of the bed. At such times stimulants are also to be used.

Cuprum aceticum, is valuable when a repercussion of the eruption to the brain has taken place.

Phosphorus, china, hepar sulp., thuya occidentalis, and some other remedies are occasionally called for.

The age, sex, temperament, and peculiar circumstances connected with each particular case; must determine the proper strength of each medicine, and the frequency of its repetition. The

higher attenuations as a rule are more frequently applicable, than the lower.

The modified small pox or varioloid, sometimes needs no treatment, owing to the extreme mildness of the local and constitutional disorder. In cases which require medicinal treatment we are guided in the selection of remedies by the indications before given.

Hygienic treatment.—— This is always of much importance in the treatment of this disease. The variolous patient always requires plenty of cool fresh air and clean linen. Both clothing and bedding should be frequently changed. A hard mattress is preferable to a feather-bed. Occasional sponging of the surface of the body with cold water will afford much relief. During desication the surface may be washed with water in which bran has been mixed; and then wiped dry with

a soft towel. The room should be kept as dark as possible, so as to prevent "pitting" of the skin, and opthalmia, with weakness of the eyes after convalescence. Touching the pustules in their early stages, with an active caustic, as the nitrate of silver, or the mercurial paste, is said to prevent pitting.

The diet should always be mild, avoiding animal food during febrile excitement; and it should be very nourishing, sometimes stimulating, as when there is great prostration of the nervous system. The drinks should always be cooling in there effect.

So much, (and volumes might be written), on this fearful disease, which ~~xxxxxx~~ by proper attention to vaccination might be eradicated from the face of the earth. Does it not then behove the guardians of the public health, to make

and enforce laws on this important subject? It is to be hoped that we may soon see the day when this curse of mankind may be thus removed!